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612.41024X00

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Norbert KOHLER et al
Serial No.:	10/030,222
Filed:	April 1, 2002
For:	System And Method Intended For Thermal Insulation Of A Pipe With Vegetable Foam
Art Unit:	1745
Examiner:	J. Rhee

APPEAL BRIEF

Commissioner For Patents
P.O. Box 1450
Alexandria, VA 22313-1450

August 23, 2006

Sir:

This Brief is being submitted under 37 C.F.R. §41.37 in connection with the appeal of the above-identified application, a Notice of Appeal having been filed June 23, 2006.

REAL PARTY IN INTEREST

The real parties in interest are Institut Français du Pétrole of Rueil-Malmaison Cedex, France and ULICE Groupe Limagrain Holding of Riom, France, the Assignees of the subject application.

RELATED APPEALS AND INTERFERENCES

On information and belief, there are no other prior or pending appeals, interferences or judicial proceedings known to Appellants, Appellants' legal representative, or assignees which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in this pending appeal.

STATUS OF CLAIMS

Claims 1, 7, 12-20 and 24-30 have been cancelled, leaving claims 2-6, 8-11 and 21-23 pending. All the pending claims, i.e., claims 2-6, 8-11 and 21-23 stand finally rejected and are being appealed.

STATUS OF AMENDMENTS

No amendment has been filed subsequent to final rejection. A Request for Reconsideration was filed after Final Rejection on May 23, 2006. The Examiner has considered the Request for Reconsideration, but does not deem it to place the application in condition for allowance. See the Advisory Action mailed June 13, 2006.

SUMMARY OF CLAIMED SUBJECT MATTER

The present invention relates to an installation and to a method intended for thermal insulation, notably of a pipe, by means of vegetable foams. See, page 1, lines1-2, of Appellants' specification.

Independent claim 9 is directed to such an installation. The installation is shown, by way of example in the sole figure of the application, as an oil well 1

intended for production of hydrocarbons contained in the reservoir rock 2. However, the installation is not limited to this field. The installation of the present invention comprises a first enclosure, e.g., a production string 5, placed in a second enclosure, e.g., a casing 3. The space 10 contained between the enclosures 5, 3 comprises a volume of vegetable foam particles used as a thermal insulant. See, page 11, lines 4-15, of Appellants' specification. The vegetable foam particles have a thermal conductivity ranging between 0.03 and 0.06W/m.°K and at least a partial solubility in an aqueous fluid. See, page 4, lines 3-5, of Appellants' specification.

The method of the present invention is set forth in independent claim 3 and comprises filling a volume defined by a space 10 contained between a first enclosure 5 interior to a second enclosure 3 with vegetable foam particles having a thermal conductivity ranging between 0.03 and 0.06W/m.°K. See, the sole figure of the application, page 11, lines 4-14, and page 4, lines 3-5, of Appellants' specification. The use of the vegetable foam particles has the advantage that, as set forth in independent method claim 3, the method can comprise solubilizing the vegetable foam particles by an aqueous fluid, and free pulling the first enclosure. See, e.g., page 10, lines 3-7, page 11, lines 19-21 of Appellants' specification and original claim 4.

As set forth in claim 21, with respect to the installation and claim 5 with respect to the method, the average size of the particles can be below 5mm. See, e.g., page 9, lines 11-12, of Appellant's specification.

As set forth in claim 10 with respect to the installation and claim 6 with respect to the method, the vegetable foam particles can comprise at least a flour and/or a non-gelatinized starch, a plasticizer, possibly another additive, and can have a water

content below 10%, and as set forth in claims 22 and 23, a water content below 5%. See, e.g., page 3, lines 16-18, of Appellants' specification.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 2-6, 8-11 and 21-23 are patentable under 35 U.S.C. §103(a) over U.S. Patent No. 5,858,489 to Beauquin in view of U.S. Patent No. 5,272,181 to Boehmer et al.

ARGUMENT

Claims 2-6, 8-11 and 21-23

The present invention relates to a method for thermally insulating an enclosure and to an installation containing a thermal insulant for an enclosure. Broadly, the present invention relates to insulation of a first enclosure placed in a second enclosure. The enclosures can consist of a string of tubings intended for transportation of a petroleum effluent, placed in another pipe, from a well for example. Several thermal insulation techniques are currently known. The string can be insulated by using tubings comprising an insulating material deposited or fastened outside the tubings. This method is very expensive and the tubings are difficult to handle. The annulus can also be filled with a more or less insulating fluid, gelled gas oil, or rigid foam manufactured in situ. However, liquids are not very good insulants, gels are delicate to use in operation and not very temperature stable, while manufacture of rigid foams is difficult to control and sending them into the annulus blocks the tubing string in the well, thus preventing complete withdrawal of the string.

The method of the present invention comprises filling a volume defined by the space contained between a first enclosure interior to a second enclosure with vegetable foam particles. Thus, the installation comprises a first enclosure placed in a second enclosure and is characterized in that the space between the enclosures comprises a volume of vegetable foam particles used as a thermal insulant. According to the method of the present invention, by using the vegetable foam particles, the particles can be solubulized by an aqueous fluid, and the first enclosure free pulled from the second enclosure. This is possible since the vegetable foam particles are at least partially soluble in an aqueous fluid. As set forth in independent claims 3 and 9, the vegetable foam particles have a thermal conductivity ranging between 0.03 and 0.06 W/m.°K and are least partially soluble in an aqueous fluid. This allows the vegetable foam particles to provide both thermal insulation and to allow for free pulling of the first enclosure.

The patent to Beauquin discloses a system for thermal and/or acoustic insulation of a tube intended, for example, to allow the outflow of hydrocarbons originating from an oil deposit, consisting of a sleeve surrounding the tube over at least a part of its length. The sleeve consists of an aerogel. As admitted by the Examiner, the Beauquin patent does not disclose that the insulant comprises vegetable foam particles, much less vegetable foam particles having a thermal conductivity ranging between 0.03 and 0.06 W/m.°K.

The Boehmer et al. patent discloses biodegradable expanded foam material prepared by combining a starch-graft copolymer with grain based starch containing materials and 15 to 25% water and expanding the mixture either with or without

blowing agents. The types of products which can be formed by the expanded foam material are described at column 3, lines 21 - 29 of Boehmer et al. as follows:

> The expected products of the invention include a wide array of foamed articles, including loose fill packing, foam sheeting, rigid foam blocks, and miscellaneous thermoformed products such as egg containers, food trays, plates, and food containers. In addition, the formulation is useful for making floor swiping compounds, and may be used for packaging hazardous waste materials which are to undergo a degradative treatment process.

All of the examples of Boehmer et al. relate to the formation of loose-fill packaging materials, similar to those popularly known as "foam peanuts," and a foam sheet for use in packaging.

Clearly, the Boehmer et al. patent is mainly directed to packing and packaging materials and provides absolutely no suggestion that the biodegradable expanded foam material can be used as an insulant for a pipe insulating jacket. Likewise, there is no suggestion in Beauquin and that the material of Boehmer et al. should be used in the pipe insulating jacket.

In fact, the Beauquin patent appears to teach away from using particles, at least particles loaded in a liquid. See, column 2, lines 6-23. The Beauquin patent clearly teaches using an aerogel, not particles. Moreover, since there is no disclosure in Boehmer et al. that the expanded foam material described therein can be used as a thermal and/acoustic insulation, there is no motivation to use the material in place of the aerogel of Beauquin.

Clearly, neither Beauquin nor Boehmer et al. would have suggested filling the space contained between a first enclosure interior to a second enclosure with vegetable foam <u>particles</u> that are soluble in water to allow free pulling of the first

enclosure. Certainly there is no suggestion to use particles having an average particle size below 5 mm. as set forth in claims 5 and 21.

Since the vegetable foam particles are used in the present invention for thermal insulation, they have a thermal conductivity ranging between 0.03 and 0.06 W/m.°K. There is absolutely no suggestion in Boehmer et al. that the expanded foam material has such a thermal conductivity. In fact, there is no suggestion that the expanded foam material of Boehmer et al. can be used for thermal insulation.

The only application disclosed in Boehmer et al. is packaging (column 2, lines 32-34). Properties of the vegetable foam that are relevant to packaging and disclosed in Boehmer et al. are "low density," "softness," "lack of dusting" and "elasticity" (see example 1), which are not the main properties that one skilled in the art would look for in a thermal insulant. Nothing is said in Boehmer et al. about thermal conductivity of the vegetable foam.

The Tonka patent used to support the Examiner's arguments discloses the use of a substantially biologically degradable polymer foam as a thermal insulant among many uses of polymer foams such as packaging, thermal insulation, acoustic insulation, etc. However, this document does not focus on the particular application as a thermal insulant in that it only focuses on cell structure, low density and mechanical properties of the foam (see, e.g., column 5, lines 48-56).

The Beauquin reference discloses a system for thermal and/or acoustic insulation of a tube consisting of a sleeve surrounding the tube and consisting of an aerogel (abstract). The specific conductivity of the foam in Beauquin is not disclosed. Moreover the insulation product consists of an aerogel, not of particles. The aerogel is preferably prepared in a non-aqueous medium and then would not

have the water solubility properties required in Applicant's technical problem. The foam according to Beauqin would not allow free pulling of the first enclosure of the tubing.

In the last paragraph of numbered section 2 of the Final Office Action, the Examiner alleges that, "since Boehmer et al. discloses that the vegetable foam particles comprises of flour, plasticizer and a water content below 10% as desired by the applicant, it is inherent that the vegetable foam disclosed by Boehmer et al. has a thermal conductivity ranging between 0.03 and 0.06." This allegation is in error.

As noted in Appellant's specification, the vegetable foam particles of the present invention can have a water content below 10%, preferably below 5%. See, also, claims 6, 10, 22 and 23. The water content to which the present application refers is the water content of the <u>final</u> product (after extrusion).

On the contrary, in Boehmer et al. water content to which the patent refers is the <u>water content of the foamed formulation prior to expansion/extrusion</u>. It is also explained in Tomka that "water bound by capillarity in the material is released and causes the polymer to foam" (abstract of U.S. 5,705,536). This means that water linked to the initial components must also be taken into account.

The total water content referred to in Boehmer then comprises bound water (moisture of the initial components) and added water. "The formulation may contain about 10 to about 30 percent moisture" (see, column 3, lines 6-7 in Boehmer et al.). "Typically, the formulation contains less than about 15% moisture, and additional water, as liquid or steam, may be added prior to the direct expansion." One would, therefore, understand that the water content of formulation being at least 10%, the

water content of final foam (after water addition and expansion) would be much greater than 10% in Boehmer et al.

This difference between "added water," "total water content of formulation after water addition and prior extrusion/expansion" and "total water content of foam" is clearly shown in the examples.

It is said in Example 1 (Boehmer et al., column 6, lines 51-56) that "the quantities of solid materials such as SGC, starch, etc. are given on a wet basis, and the water percentage comprises water added to the other materials in the preconditioner as liquid or vapor (steam)." The examples in Boehmer et al. reveal a water content greater than 10% as follows.

Example 1: Moisture content of starch-graft copolymer is 18-20%.

Formulation: Starch-graft copolymer SGC no 010 18.0%

Corn Starch	70%
Added Water	12.0%

Water content due to Starch-graft copolymer = 18-20% of 18.0% - 3.2-3.6%

Added water = 12.0%

Total water content of formulation after water addition and prior to extrusion = 18% ("the total moisture content of the mixture was approximately 18%. The ingredients were combined, mixed as elevated temperature and expanded through the extruder." Column 6, lines 63-66). We then can estimate that water content due to corn starch is around 2.4-2.8%; this means that corn starch water content would be around 3.4-4.0%.

Example 2: The formulation contains:

20.0% of starch-graft polymer SGC no 010=> water content due to SCG would be 18-20% of 20%, i.e., 3.6 to 4.0%.

10% of added water.

Adding initial water content of other components, water content due to SGC and added water would lead to a water content of formulation > 13-14%, a fortiori greater than 10%.

Example 3: added water = 11%

24.0% of starch-graft polymer SGC no 010=> water content due to SCG would be 18-20% of 24%, i.e., 4.3 to 4.8%.

Adding initial water content of other components, water content due to SGC and added water would lead to a water content of formulation > 14-15%, a fortiori greater than 10%.

Example 4: added water = 11%

22.0% of starch-graft polymer SGC no 010 => water content due to SCG would be 18-20% of 22%, i.e., 4.0 to 4.4%.

Adding initial water content of other components, water content due to SGC and added water would lead to a water content of formulation > 14%, a fortiori greater than 10%.

Example 5: added water = 8%

22.0% of starch-graft polymer SGC no 010 => water content due to SCG would be 18-20% of 22%, i.e. 4.0 to 4.4%.

Adding initial water content of other components, water content due to SGC and added water would lead to a water content of formulation > 12%, a fortiori greater than 10%.

Example 6: added water = 10%

18.0% of starch-graft polymer SGC no 010 => water content due to SCG would be 18-20% of 18%, i.e. 3.2 to 3.6%.

Adding initial water content of other components, water content due to SGC and added water would lead to a water content of formulation > 13%, a fortiori greater than 10%.

Example 7: added water 8.2%

28.0% of starch-graft polymer SGC no 010=> water content due to SCG would be 18-20% of 28%, i.e. 5.0 to 5.6%.

Adding initial water content of other components, water content due to SGC and added water would lead to a water content of formulation > 13%, a fortiori greater than 10%.

Moreover, it is said in the Boehmer et al. document (claim 1) that the method comprises "adding liquid to bring the water content of the mixture to between 10 and 50%; conditioning the wetted mixture; and expanding the mixture." This means that prior to extrusion the water content of the formulation is between 10 to 50%.

In Boehmer et al., the water content of formulation is defined prior to extrusion (the expansion step follows the addition step) such that it is a *priori* impossible to guess what the exact final water content of the foam will be. On the contrary, the water content of foam is defined after extrusion in the present invention, which made comparison difficult.

However, it is known from Boehmer et al. that "water acts as a 'blowing agent', being superheated by compression of the extruder screw and subsequently released to atmospheric pressure" (column 3, lines 10-12).

Considering the range claimed for the water content of the formulation prior to extrusion (10% to 50%), the water content of the final foam (after extrusion) would be of same order of magnitude, i.e., over 10%.

Moreover, the abstract in Boehmer et al. clearly refers to a "biodegradable expanded foam material prepared by combining a starch-graft copolymer with grain based starch containing materials and 15 to 25% water."

Therefore, the Examiner's conclusion that Boehmer et al. discloses a foam with a water content below 10% is incorrect. Therefore, the Examiner's conclusion that the foam of Boehmer et al. inherently has a thermal conductivity ranging between 0.03 and 0.06 is in error.

Moreover, the thermal conductivity might not be guessed from Boehmer et al., (column 2, lines 41-43) "A wide variety of foamed products, with significant differences in properties, is encompassed by the invention." Boehmer's et al. invention is certainly not restricted to a small range of conductivities.

Furthermore, it is known by the one skilled in the art that thermal conductivity of a foam depends on a large number of parameters such as water content, but also cell size, foam age, etc.

From the teachings of Boehmer et al., it would not have been obvious either to select a water content less than 10% for the vegetable foam, or to chose a foam with a thermal conductivity comprised between 0.03 and 0.06 WmK. Moreover, it

would not have been obvious to use such a foam as a thermal insulant for the reasons set forth above.

To conclude, considering Boehmer et al. in view of Beauquin, there is no suggestion or motivation to replace the sleeve consisting an aerogel by the specific vegetable foam particles of Appellants' invention, nor to fill in an empty space between tubes with such a foam having low conductivity.

Therefore, from the teachings of the prior art it would not have been obvious to one of ordinary skill in the art to use a foam with water content below 10% <u>and</u> a thermal conductivity between 0.03 and 0.06 W.mK. The vegetable foam according to Appellants' invention has a very low conductibility, is at least partially soluble in an aqueous fluid and enables the tubing to be raised freely, all these specific characteristics being advantageous over the prior art in the field of thermal insulation of tubing conveying hydrocarbons from ground wells.

For the foregoing reasons, the presently claimed invention is patentable over the proposed combination of references.

<u>Claims 5 and 21</u>

Clearly, neither Beauquin nor Boehmer et al. would have suggested filling the space contained between a first enclosure interior to a second enclosure with vegetable foam <u>particles</u> that are soluble in water to allow free pulling of the first enclosure. Certainly there is no suggestion to use particles having an average particle size below 5 mm. as set forth in claims 5 and 21.

Claims 6, 10, 22 and 23

As noted in Appellants' specification, the vegetable foam particles of the present invention can have a water content below 10%, preferably below 5%. See, also, claims 6, 10, 22 and 23. The water content to which the present application refers is the water content of the final product (after extrusion).

On the contrary, in Boehmer et al. water content to which the patent refers is the water content of the foamed formulation prior to expansion/extrusion. It is also explained in Tomka that "water bound by capillarity in the material is released and causes the polymer to foam" (abstract of U.S. 5,705,536). This means that water linked to the initial components must also be taken into account.

The total water content referred to in Boehmer then comprises bound water (moisture of the initial components) and added water. "The formulation may contain about 10 to about 30 percent moisture" (see, column 3, lines 6-7 in Boehmer et al.). "Typically, the formulation contains less than about 15% moisture, and additional water, as liquid or steam, may be added prior to the direct expansion." One would, therefore, understand that the water content of formulation being at least 10%, the water content of final foam (after water addition and expansion) would be much greater than 10% in Boehmer et al.

This difference between "added water," "total water content of formulation after water addition and prior extrusion/expansion" and "total water content of foam" is clearly shown in the examples.

It is said in Example 1 (Boehmer et al., column 6, lines 51-56) that "the quantities of solid materials such as SGC, starch, etc. are given on a wet basis, and the water percentage comprises water added to the other materials in the

preconditioner as liquid or vapor (steam)." The examples in Boehmer et al. reveal a water content greater than 10% as follows.

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Total water content of formulation after water addition and prior to extrusion = 18% ("the total moisture content of the mixture was approximately 18%. The ingredients were combined, mixed as elevated temperature and expanded through the extruder." Column 6, lines 63-66). We then can estimate that water content due to corn starch is around 2.4-2.8%; this means that corn starch water content would be around 3.4-4.0%.

Example 2: The formulation contains:

20.0% of starch-graft polymer SGC no 010=> water content due to SCG would be 18-20% of 20%, i.e., 3.6 to 4.0%.

10% of added water.

Adding initial water content of other components, water content due to SGC and added water would lead to a water content of formulation > 13-14%, a fortiori greater than 10%.

Example 3: added water = 11%

24.0% of starch-graft polymer SGC no 010=> water content due to SCG would be 18-20% of 24%, i.e., 4.3 to 4.8%.

Adding initial water content of other components, water content due to SGC and added water would lead to a water content of formulation > 14-15%, a fortiori greater than 10%.

Example 4: added water = 11%

22.0% of starch-graft polymer SGC no 010 => water content due to SCG would be 18-20% of 22%, i.e., 4.0 to 4.4%.

Adding initial water content of other components, water content due to SGC and added water would lead to a water content of formulation > 14%, a fortiori greater than 10%.

Example 5: added water = 8%

22.0% of starch-graft polymer SGC no 010 => water content due to SCG would be 18-20% of 22%, i.e. 4.0 to 4.4%.

Adding initial water content of other components, water content due to SGC and added water would lead to a water content of formulation > 12%, a fortiori greater than 10%.

Example 6: added water = 10%

18.0% of starch-graft polymer SGC no 010 => water content due to SCG would be 18-20% of 18%, i.e. 3.2 to 3.6%.

Adding initial water content of other components, water content due to SGC and added water would lead to a water content of formulation > 13%, a fortiori greater than 10%.

Example 7: added water 8.2%

28.0% of starch-graft polymer SGC no 010=> water content due to SCG would be 18-20% of 28%, i.e. 5.0 to 5.6%.

Adding initial water content of other components, water content due to SGC and added water would lead to a water content of formulation > 13%, a fortiori greater than 10%.

Moreover, it is said in the Boehmer et al. document (claim 1) that the method comprises "adding liquid to bring the water content of the mixture to between 10 and 50%; conditioning the wetted mixture; and expanding the mixture." This means that prior to extrusion the water content of the formulation is <u>between 10 to 50%</u>.

In Boehmer et al., the water content of formulation is defined prior to extrusion (the expansion step follows the addition step) such that it is a *priori* impossible to guess what the exact final water content of the foam will be. On the contrary, the water content of foam is defined after extrusion in the present invention, which made comparison difficult.

However, it is known from Boehmer et al. that "water acts as a 'blowing agent', being superheated by compression of the extruder screw and subsequently released to atmospheric pressure" (column 3, lines 10-12).

Considering the range claimed for the water content of the formulation prior to extrusion (10% to 50%), the water content of the final foam (after extrusion) would be of same order of magnitude, i.e., over 10%.

Moreover, the abstract in Boehmer et al. clearly refers to a "biodegradable expanded foam material prepared by combining a starch-graft copolymer with grain based starch containing materials and 15 to 25% water."

Therefore, the Examiner's conclusion that Boehmer et al. discloses a foam with a water content below 10% is incorrect. Therefore, the Examiner's conclusion

that the foam of Boehmer et al. inherently has a thermal conductivity ranging between 0.03 and 0.06 is in error.

Moreover, the thermal conductivity might not be guessed from Boehmer et al., (column 2, lines 41-43) "A wide variety of foamed products, with significant differences in properties, is encompassed by the invention." Boehmer's et al. invention is certainly not restricted to a small range of conductivities.

Furthermore, it is known by the one skilled in the art that thermal conductivity of a foam depends on a large number of parameters such as water content, but also cell size, foam age, etc.

From the teachings of Boehmer et al., it would not have been obvious either to select a water content less than 10% for the vegetable foam, or to chose a foam with a thermal conductivity comprised between 0.03 and 0.06 WmK. Moreover, it would not have been obvious to use such a foam as a thermal insulant for the reasons set forth above.

To conclude, considering Boehmer et al. in view of Beauquin, there is no suggestion or motivation to replace the sleeve consisting an aerogel by the specific vegetable foam particles of Appellants' invention, nor to fill in an empty space between tubes with such a foam having low conductivity.

Therefore, from the teachings of the prior art it would not have been obvious to one of ordinary skill in the art to use a foam with water content below 10% <u>and</u> a thermal conductivity between 0.03 and 0.06 W.mK. The vegetable foam according to Appellants' invention has a very low conductibility, is at least partially soluble in an aqueous fluid and enables the tubing to be raised freely, all these specific

characteristics being advantageous over the prior art in the field of thermal insulation of tubing conveying hydrocarbons from ground wells.

For the foregoing reasons, the presently claimed invention is patentable over the proposed combination of references.

To the extent necessary, Appellants petition for an extension of time under 37 C.F.R. §1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 01-2135 (612.41024X00) and please credit any excess fees to such Deposit Account.

Very truly yours,

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Enclosures

AES:dlh

APPENDIX

CLAIMS ON APPEAL

2. A method as claimed in claim 3, wherein said volume is an annular space defined by the outside of a pipe placed in another pipe.

3. A method intended for thermal insulation, comprising filling a volume defined by the space contained between a first enclosure interior to a second enclosure with vegetable foam particles having a thermal conductivity ranging between 0.03 and 0.06 W/m.°K, solubilizing said vegetable foam particles by an aqueous fluid, and free pulling said first enclosure.

4. A method as claimed in claim 3, wherein said fluid is about 1 mol/liter of soda concentration.

5. A method as claimed in claim 3, wherein the average size of the particles is below 5 mm.

6. A method as claimed in claim 3, wherein said vegetable foam comprises at least : a flour and/or a non-gelatinized starch, a plasticizer, possibly another additive, a water content below 10 %.

8. An installation as claimed in claim 9, wherein said enclosures consist of a string of tubings intended for transportation of a petroleum effluent placed in another pipe.

9. An installation comprising a first enclosure placed in a second enclosure, characterized in that the space contained between said enclosures comprises a volume of vegetable foam particles used as a thermal insulant, wherein said vegetable foam particles have the following properties : thermal conductivity ranging between 0.03 and 0.06 W/m.°K and at least partial solubility in an aqueous fluid.

10. An installation as claimed in claim 9, wherein said vegetable foam particles comprise at least : a flour and/or a non-gelatinized starch, a plasticizer, possibly another additive, a water content below 10 %.

11. An installation as claimed in claim 9, wherein said space further comprises at least one of the following insulants : silicate foam particles, aerogel foam particles, dry powders.

21. An installation as claimed in claim 9, wherein said vegetable foam particles have an average particle size below 5 mm.

22. An installation as claimed in claim 9, wherein said vegetable foam particles have a water content below 5%.

23. A method as claimed in claim 3, wherein said vegetable foam particles have a water content below 5%.

APPENDIX

RELATED PROCEEDINGS

APPENDIX

EVIDENCE